

Listing of Claims:

1. (Original) A method, for use in a transmitter in a mobile communication system, the mobile communication system having multiple code groups having inherent code indices in response to each of slots, selecting one code group from among the multiple code groups, and generating a second synchronization code corresponding to any one slot from among multiple slots, which are included in the selected code group, the method being performed to determine position information designating a Hadamard code necessary for generating the second synchronization code, the method comprising the steps of:

(1) in response to any one slot, outputting a value, which is obtained by subtracting 1 from a code index included in the selected code group, as a binary bit row; and

(2) selecting one bit row, which employs the binary bit row as an upper bit and employs a binary code "0000" as a lower bit, as position information which designates the Hadamard code.

2. (Original) The method as claimed in claim 1, wherein each code group has inherent code indices which are expressed by 5 bits in response to each of 15 slots, and the binary bit row is expressed by 4 bits.

3. (Original) The method as claimed in claim 1, wherein step 1 comprises: temporarily storing binary bit rows of 4 bits obtained by subtracting 1 from inherent indices corresponding to each of slots included in the selected code group; and

selecting and outputting a binary bit row corresponding to any one slot selected by a slot count value from among the temporarily stored binary bit rows.

4. (Original) The method as claimed in claim 1, further comprising step 3 of generating the Hadamard code through a logical AND operation in the unit of bit with respect to the position information and an 8 bit chip count value selecting one from

among 256 sequences, and a logical XOR operation with respect to a row of bits obtained by the logical AND operation.

5. (Original) An apparatus, for use in a transmitter in a mobile communication system, the mobile communication system having multiple code groups which have inherent code indices in response to each of slots, selecting one code group from among the multiple code groups and generating a second synchronization code corresponding to any one slot from among multiple slots which is included in the selected code group, the apparatus being operable to determine position information designating a Hadamard code necessary for generating the second synchronization code, the apparatus comprising:

a register for temporarily storing binary bit rows of 4 bits obtained by subtracting 1 from inherent indices corresponding to slots included in the selected code group;

a multiplexer for selecting and outputting any one binary bit row from among the temporarily stored binary bit rows by in accordance with a slot count value; and

a buffer for outputting one bit row, which employs the binary bit row from the multiplexer as an upper bit and employs a binary code "0000" as a lower bit, as position information which designates the Hadamard code.

6. (Original) The apparatus claimed in claim 5, wherein each code group has inherent code indices which are expressed by 5 bits in response to each of 15 slots and the binary bit row is expressed by 4 bits.

7. (Original) The apparatus claimed in claim 5, further comprises:

an AND operation unit for receiving position information from the buffer and an 8 bit chip count value selecting one from among 256 sequences, and performing a logical AND operation on the position information and the chip count value by the unit of bit; and

an XOR operation unit for performing a logical XOR operation on a row of bits obtained by the logical AND operation and outputting the Hadamard code.

8. (Original) A method, for use in a transmitter in a mobile communication system, the mobile communication system having multiple code groups which have inherent code indices in response to slots, selecting one code group from among the multiple code groups and generating a second synchronization code corresponding to any one slot from among multiple slots which included in the selected code group, the method being performed to generate a Hadamard code necessary for generating the second synchronization code, the method comprising the steps of:

(1) in response to any one slot, outputting a value, which is obtained by subtracting 1 from a code index included in the selected code group, as a binary bit row;

(2) selecting one bit row, which employs the binary bit row as an upper bit and employs a binary code "0000" as a lower bit, as position information which designates the Hadamard code; and

(3) generating the Hadamard code through a logical AND operation in the unit of bit with respect to the position information and an 8 bit chip count value selecting one from among 256 sequences; and a logical XOR operation with respect to a row of bits obtained by the logical AND operation.

9. (Original) The method as claimed in claim 8, wherein each code group has inherent code indices which are expressed by 5 bits in response to each of 15 slots, and the binary bit row is expressed by 4 bits.

10. (Original) The method as claimed in claim 8, wherein step 1 comprises: temporarily storing binary bit rows of 4 bits obtained by subtracting 1 from inherent indices corresponding to each of slots included in the selected code group; and

selecting and outputting a binary bit row corresponding to any one slot selected by a slot count value from among the temporarily stored binary bit rows.